2010 TILLAGE SYSTEMS

Farmers are the original environmentalists and conservationists. In order to maintain a paying farm, they have long recognized soil and water as the foundation of a successful crop. To address the problem of highly erodible soil, many farmers have adopted no-till and other conservation practices as a major part of their farming operation. In response to a need for information regarding these conservation practices in the state, the Tennessee Field Office of USDA's National Agricultural Statistics Service began making estimates of these tillage systems in 1983 for soybeans, corn, and sorghum. Estimates of major tillage systems used on cotton were added in 1992 and on wheat in 1995. Sorghum estimates were discontinued in 2008.

Potential advantages for no-till or other conservation tillage practices are reduced labor costs, reduced soil compaction and erosion, and increased water infiltration.

Total no-till usage overall for the major crops in 2010 was down 15.0 percent from 2009. This season was highlighted by heavy, persistent rainfall around planting time that led to the necessity of growers to decrease slightly the use of conservation tillage practices. This was particularly the case for soybeans and wheat. However, no-till acres for cotton actually increased while corn was only down moderately. Tennessee farmers used the no-till practice on 64.4 percent of the total acreage dedicated to soybeans, corn, cotton, and wheat, compared to 71.7 percent in 2009. Other conservation tillage practices accounted for 22.8 percent of the acreage seeded to the state's major crops. Double-cropped acreage for these crops totaled 7.8 percent for 2010 compared with 13.3 and 18.5 percent in 2009 and 2008, respectively.

The Tennessee Field Office is a cooperative endeavor of the U. S. and Tennessee Departments of Agriculture, who have combined resources to provide a single source of official estimates for Tennessee agriculture.

TILLAGE PRACTICES: BY CROP, TENNESSEE, 2005-2010

Crop	Year	Total Acres Planted	No-Till[1]		Other Conservation Tillage[2]		Conventional Till[3]		Double-Cropped[4]	
			Acres	% of Total[5]	Acres	% of Total[5]	Acres	% of Total[5]	Acres	% of Total
Soybeans	2005	1,130,000	750,000	66.4	260,000	23.0	120,000	10.6	170,000	15.0
	2006	1,160,000	880,000	75.9	180,000	15.5	100,000	8.6	210,000	18.1
	2007	1,080,000	860,000	79.6	160,000	14.8	60,000	5.6	310,000	28.7
	2008	1,490,000	1,190,000	79.9	220,000	14.8	80,000	5.4	540,000	36.2
	2009	1,570,000	1,250,000	79.6	230,000	14.6	90,000	5.7	370,000	23.6
	2010	1,450,000	940,000	64.8	330,000	22.8	180,000	12.4	200,000	13.8
Corn	2005	650,000	430,000	66.2	140,000	21.5	80,000	12.3	20,000	3.1
	2006	550,000	400,000	72.7	100,000	18.2	50,000	9.1	20,000	3.6
	2007	860,000	600,000	69.8	170,000	19.8	90,000	10.5	25,000	2.9
	2008	690,000	500,000	72.5	130,000	18.8	60,000	8.7	30,000	4.3
	2009	670,000	470,000	70.1	140,000	20.9	60,000	9.0	25,000	3.7
	2010	680,000	460,000	67.6	160,000	23.5	60,000	8.8	20,000	2.9
Cotton	2005	640,000	310,000	48.4	170,000	26.6	160,000	25.0	1,000	0.2
	2006	700,000	420,000	60.0	170,000	24.3	110,000	15.7	1,000	0.1
	2007	515,000	330,000	64.1	110,000	21.4	75,000	14.6	1,000	0.2
	2008	285,000	190,000	66.7	65,000	22.8	30,000	10.5	500	0.2
	2009	300,000	200,000	66.7	70,000	23.3	30,000	10.0	0	0.0
	2010	400,000	280,000	70.0	90,000	22.5	30,000	7.5	0	0.0
Wheat[6]	2005	240,000	110,000	45.8	70,000	29.2	60,000	25.0	--------	----
	2006	280,000	120,000	42.9	90,000	32.1	70,000	25.0	--------	----
	2007	420,000	220,000	52.4	110,000	26.2	90,000	21.4	--------	----
	2008	620,000	330,000	53.2	180,000	29.0	110,000	17.7	--------	----
	2009	430,000	210,000	48.8	100,000	23.3	120,000	27.9	--------	----
	2010	280,000	130,000	46.4	60,000	21.4	90,000	32.1	--------	----
Total	2005	2,660,000	1,600,000	60.2	640,000	24.1	420,000	15.8	191,000	7.2
	2006	2,690,000	1,820,000	67.7	540,000	20.1	330,000	12.3	231,000	8.6
	2007	2,875,000	2,010,000	69.9	550,000	19.1	315,000	11.0	336,000	11.7
	2008	3,085,000	2,210,000	71.6	595,000	19.3	280,000	9.1	570,500	18.5
	2009	2,970,000	2,130,000	71.7	540,000	18.2	300,000	10.1	395,000	13.3
	2010	2,810,000	1,810,000	64.4	640,000	22.8	360,000	12.8	220,000	7.8

[1]No-Till - A procedure whereby a crop is planted directly into a seedbed not tilled since harvest of a previous crop, or the planting of a crop into sod, previous crop stubble, or a cover where only the intermediate seed zone is disturbed.
[2]Other Conservation Tillage - Tillage practices prior to planting which result in a minimum of 30 percent ground cover or residue being retained on the surface following planting. Grass and weed control is accomplished primarily with herbicides. Includes ridge till, strip till, and mulch till.
[3]Conventional Till – Systems where 100 percent of the surface layer is mixed or inverted by plowing, power tilling, or multiple disking.
[4]Double-Cropped – Two crops harvested from the same field during one year. Example: small grain harvest spring 2010, followed by soybeans, corn or sorghum harvest in the fall of 2010.
[5]Sum of no-till, other conservation tillage and conventional till percents of total may not add to 100 percent due to rounding.
[6]Wheat seeded the previous fall for all intended purposes including grain, cover, silage, hay, or any other utilization.

TILLAGE PRACTICES: BY CROP, DISTRICT, TENNESSEE, 2010

Crop	District	Total Acres Planted	No-Till		Other Conservation Till		Conventional Till	
			Acres	% of Total	Acres	% of Total	Acres	% of Total
Soybeans	10	560,000	330,000	58.9	150,000	26.8	80,000	14.3
	20	610,000	395,000	64.8	150,000	24.6	65,000	10.7
	30	95,000	75,000	78.9	10,000	10.5	10,000	10.5
	40	93,000	73,000	78.5	10,000	10.8	10,000	10.8
	50	67,000	49,000	73.1	7,000	10.4	11,000	16.4
	60	25,000	18,000	72.0	3,000	12.0	4,000	16.0
	State	1,450,000	940,000	64.8	330,000	22.8	180,000	12.4
Corn	10	136,000	86,000	63.2	39,000	28.7	11,000	8.1
	20	295,000	205,000	69.5	68,000	23.1	22,000	7.5
	30	80,000	55,000	68.8	18,000	22.5	7,000	8.8
	40	72,000	49,000	68.1	15,000	20.8	8,000	11.1
	50	54,000	37,000	68.5	11,000	20.4	6,000	11.1
	60	43,000	28,000	65.1	9,000	20.9	6,000	14.0
	State	680,000	460,000	67.6	160,000	23.5	60,000	8.8
Cotton	10	95,000	58,000	61.1	25,000	26.3	12,000	12.6
	20	290,000	210,000	72.4	63,000	21.7	17,000	5.9
	30 - 50	15,000	12,000	80.0	2,000	13.3	1,000	6.7
	60	0	0		0		0	
	State	400,000	280,000	70.0	90,000	22.5	30,000	7.5
Wheat	10	55,000	23,000	41.8	6,000	10.9	26,000	47.3
	20	110,000	45,000	40.9	15,000	13.6	50,000	45.5
	30	39,000	19,000	48.7	10,000	25.6	10,000	25.6
	40	33,000	18,000	54.5	13,000	39.4	2,000	6.1
	50	21,000	12,000	57.1	8,000	38.1	1,000	4.8
	60	22,000	13,000	59.1	8,000	36.4	1,000	4.5
	State	280,000	130,000	46.4	60,000	21.4	90,000	32.1
Total	**10**	846,000	497,000	58.7	220,000	26.0	129,000	15.2
	20	1,305,000	855,000	65.5	296,000	22.7	154,000	11.8
	30-50	569,000	399,000	70.1	104,000	18.3	66,000	11.6
	60	90,000	59,000	65.6	20,000	22.2	11,000	12.2
	State	2,810,000	1,810,000	64.4	640,000	22.8	360,000	12.8

2010 Tennessee Tillage Systems

- Soybeans
- Corn
- Cotton
- Winter Wheat

USDA, National Agricultural Statistics Service
Tennessee Field Office
P.O. Box 41505 ♦ Nashville, TN 37204-1505
(615) 781-5300 ♦ nass-tn@nass.usda.gov
http://www.nass.usda.gov/tn
Debra K. Kenerson, Director

July 2010